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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,571	08/27/2001	Koji Ono	35.C15701	1644

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

ORTIZ, EDGARDO

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 02/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/938,571

Applicant(s)
Ono

Examiner
Edgardo Ortiz

Art Unit
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 27, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 20) ☐ Other:

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DETAILED ACTION

This Office Action is in response to an application filed August 27, 2001.

Drawings

1. Figure 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 5, 7, 10 and 11 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Hideki (Japanese Patent No. 08-241976). With regard to Claim 1, Hideki teaches a solid-state image pickup element chip (32) on which a plurality of solid-state image pickup elements are mounted, a protection cap (36) provided on a light incident side of said solid-state image pickup element chip, characterized in that said solid-state image pickup element chip is formed on a substrate (30) with a thermal expansion coefficient equal to that of said protection cap and the substrate and said protection cap are sealed with a sealing resin (40). Note that the material of the protective cap and the substrate of Hideki are the same as those disclosed by Applicant.

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With regard to Claim 4, Hideki teaches a substrate (30) that is one of a glass substrate, ceramic substrate, metal substrate and resin substrate or a substrate formed by stacking some of the glass substrate, ceramic substrate, metal substrate and resin substrate.

With regard to Claim 5, Hideki teaches a sealing resin (40) that is selected from the group consisting of epoxy, acrylic and phenol-based resins.

With regard to Claim 7, Hideki teaches a solid-state image pickup element chip (32) on which a plurality of solid-state image pickup elements are mounted, protection cap (36) on a light incident side of said solid-state image pickup element chip and adapted to protect said solid-state image pickup element chip, characterized in that said solid-state image pickup element chip is formed on a substrate (30) made of the same material as that of said protection cap and the substrate and said protection cap are sealed with a sealing resin (40).

With regard to Claim 10, Hideki teaches a substrate (30) that is one of a glass substrate, ceramic substrate, metal substrate and resin substrate or a substrate formed by stacking some of the glass substrate, ceramic substrate, metal substrate and resin substrate.

With regard to Claim 11, Hideki teaches a sealing resin (40) that is selected from the group consisting of epoxy, acrylic and phenol-based resins.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 6, 8, 9 and 12 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Hideki (Japanese Patent No. 08-241976) in view of Nakamura et.al. (U.S. Patent No. 5,138,145). With regard to Claims 2 and 8; Hideki as stated supra, essentially discloses the claimed invention but fails to show, a flexible adhesive to adhere the solid-state image pickup element chip to the substrate. Nakamura teaches an image sensor with simplified chip mounting that includes an image pickup element chip which is adhered to a transparent substrate by a flexible adhesive (40) or resin. Therefore, it would have been an obvious modification to someone with ordinary skill in the art, at the time of the invention, to modify the structure as taught by Hideki, to include a flexible adhesive to adhere the solid-state image pickup element chip to the substrate, as suggested by Nakamura, in order to improve the stability and the mounting of a chip over an insulating substrate.

With regard to Claims 3 and 9; a further difference between the claimed invention and Hideki is, a contact preventive member provided between each one of the plurality of solid-state image pickup elements and the sealing resin so the sealing resin will not come into contact with each one

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of the plurality of solid-state image pickup elements. Nakamura teaches a protective layer (46) that serves as a contact preventive member provided between each one of the elements in the image pickup element chip and the sealing resin to prevent contact of the sealing resin and the image elements. Therefore, it would have been an obvious modification to someone with ordinary skill in the art, at the time of the invention, to modify the structure as taught by Hideki, to include a contact preventive member provided between each one of the plurality of solid-state image pickup elements and the sealing resin so the sealing resin will not come into contact with each one of the plurality of solid-state image pickup elements, as suggested by Nakamura, in order to protect the circuit conductors so that current can flow into the image sensor.

With regard to Claims 6 and 12, a further difference between the claimed invention and Hideki is, a solid-state image pickup element chip formed on the substrate through a light-shielding layer. Nakamura teaches an image sensor with simplified chip mounting that includes an image pickup element chip formed on a substrate through a light-shielding layer (40) that comprises a flexible adhesive of resin. Therefore, it would have been an obvious modification to someone with ordinary skill in the art, at the time of the invention, to modify the structure as taught by Hideki, to include a solid-state image pickup element chip formed on the substrate through a light-shielding layer, as suggested by Nakamura, in order to prevent malfunction of the device that may be caused by light reflection.

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Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Edgardo Ortiz (Art Unit 2815), whose telephone number is (703) 308-6183 or by fax at (703) 308-7722. In case the Examiner can not be reached, you might call Supervisor Eddie Lee at (703) 308-1690. Any inquiry of a general nature or relating to the status of this application should be directed to the Group 2800 receptionist whose telephone number is (703) 308-0956.

EO/AU 2815

2/20/02



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800